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(19)(CA) **APPLICATION FOR CANADIAN PATENT** (12)

# (54) Fire Hose Container

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(71) Same as inventor

(57) 15 Claims

2146470

**Abstract of the Disclosure**

A container for storing, transporting and unloading fire hose in situations where there is a need to lay multiple lengths of hose. Such is often the case with a forest fire. The container has top bottom, front, back, and side panels which can be closed and which, when the front panel is fully opened, form a trough into which the fire hose can be accordion folded. The front panel has two overlapping doors which can be opened, while the rest of front panel, comprising two outer doors, remains shut. This creates a vertical slot through which the fire hose can be unloaded. *Velcro fasteners provide a reusable closure means for the front panel. The long edges of the outer doors abutting the center doors have a batten making rigid such edges. The top, bottom, side, front and back panels have a foam insert to prevent deformity and, in the case of the back panel, to cushion the carrier's back. The container is carried on one's back by means of two adjustable, quick release, contoured and cushioned shoulder straps that attach to the top and back panels. Fire hose can be conveniently loaded directly into the container and unloaded with minimal pull out resistance. The container is comfortable to carry and does not bounce or sway.

**Trademark ***

# Field of Invention

The present invention relates to a container for storing, transporting and unloading fire hose.

# Background of the Invention

It is not uncommon when fighting forest fires or remote rural fires that the need arises to lay multiple lengths of fire hose in order to go from the water source to the fire. The containers known to be used in the prior art to accomplish this consist of a variety of unstructured leather or fabric containers that are carried on one's back and secured by means of shoulder straps. The containers unload the fire hose through a fixed opening at the top or bottom.

Such unstructured containers are difficult to load especially at the start of the loading procedure. As a result, while hose is sometimes first loaded into a rigid cardboard box which is then placed inside the container, this represents an added expense and the boxed frequently can not be reused. Secondly the containers are uncomfortable to carry, digging into the carrier's lower back and exhibiting undesirable sway and bounce characteristics that fatigue the carrier. Finally, these containers unload the fire hose through a fixed opening in such a manner that there is an appreciable burden on the carrier as he walks forward.

# Summary of the Invention

An object of the present invention is to provide a container into which fire hose can be conveniently loaded and stored.

A further object is to provide a container from which fire hose can be unloaded through a vertical slot in such a manner that there is a variable exit point and minimal burden on the carrier as he walks and unloads the fire hose.

A further object is to provide a container which is comfortable to carry and which does not bounce or sway.

The present invention consists of a container for storing, transporting and unloading fire hose. The container comprises top, bottom, front, back and side panels. When the front panel is fully opened the remaining panels form a trough. The front panel has two overlapping center doors which can be opened while the rest of the front panel, comprising two outer doors, remains shut. This creates a vertical slot though which the fire hose can be unloaded.. The exterior overlapping center door has two broad loops attached to it as a means for grasping. *Velcro fasteners provide a reusable closure means for the front panel's outer and center doors. The inside of each outer door adjacent to the vertical slot has an anti-friction wear resistant strip of material that houses a removable rigid batten. Two adjustable, quick release shoulder straps anchored to the top and back panels comprise the means for carrying the container. The shoulder straps have contoured, cushioned pads that distribute the weight of the container across their entire width. The top, bottom, side, front and back panels have a foam insert to prevent deformity and, in the case of the back panel, to cushion the carrier's back. The top and side panels have a means for lifting the container. The panels are integral to one another and are made from a double layer of material. The material may be fire resistant, water resistant rot and mildew resistant and ultra violet light resistant.

## Summary of Drawings

The invention as exemplified by a preferred embodiment is described with reference to the drawings in which;

Figure 1 is a perspective view of the container while closed and resting on its bottom panel

Figure 2 is a perspective view of the container while closed and resting on its bottom panel with its center doors open and outer doors closed.

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Figure 3 is a perspective view of the container while resting on its bottom panel with its front panel, center doors and outer doors, fully open.

Figure 4 is a perspective view of the container while resting on its bottom panel which shows the top panel, back panel, shoulder straps and typical side panel.

## Detailed Description

Referring to the drawings, the preferred embodiment of the invention, a container for storing, transporting and unloading fire hose, is shown in Figure 1,2,3, and 4.

As shown in Figure 1, the container comprises panels 12,14,16,18,20, and 22. As shown in Figure 3, the top panel 12, bottom panel 14, side panels 16,18, and back panel 20 form a trough 24 when the front panel 22 is fully opened. As shown in Figure 2, the front panel 22 comprises two hinged overlapping center doors 26,28 and two outer doors 30,32.

As shown in Figure 3, the top panel 12 and the bottom panel 14 each have a pair of tabs 34. Stitched to the inside of the tabs 34 are strips of *Velcro fasteners 36. Stitched to the top and bottom of each of the outer doors 30,32 are strips of *Velcro fasteners 38. As shown in Figure 1, when the outer doors 30,32 are closed *Velcro fasteners 36 on the top and bottom panel tabs 34 can be secured to the *Velcro fasteners 38 on the top and bottom of the outer doors 30, 32.

As shown in Figure 2, the outside of the front panel's right center door 28 has a *Velcro fastener 40 along its long edge abutting the right outer door 32. The inside of the left center door 26 has a *Velcro fastener 42 along its long edge furthest from the left outer door 30. The center doors 26, 28 are hinged along vertically sewn lines. As shown in Figure 1, when the left center door 26 is overlapped on to the right center door 28 the *Velcro fastener 42 can be secured to *Velcro fastener 40. As shown in Figure 2, when the center doors 26, 28 are opened and the outer doors 30, 32 are closed, a vertical slot 44 is created through which the fire hose is unloaded. As shown in Figure 3, the

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long inside edges 46 of the outer doors 30,32 abutting the vertical slot 44 have anti-friction, wear resistant material 60,62 stitched to them so that as hose leaves through the vertical slot 44, wear is minimised. As shown in Figure 2, the left center door 26 has a pair of broad loops 48 as a means for grasping to open or close it. The side panels 16, 18 each have a handle 50 for lifting. A third handle 52 attaches to the top panel 12 and runs from the side panel 16 to the side panel 18. The handles 50, 52 are attached by means of stitching and rivets.

As shown in Figure 4, a pair of shoulder straps 54 are attached to the top panel 12 at one end and the back panel 20 at the other end. The shoulder straps 54 have a contoured, cushioned pad 56 that distributes the weight of the container 10 across their entire width. The shoulder straps 54 each have a ladder lock 58 that can quickly release or adjust the length of the strap. The shoulder strap 54 is attached by means of rivets and stitching.

The panels 12,14,16,18,20 and 22 are defined by stitching along their abutting edges and are formed from two pieces of material. The panels 12,14,16,18 and 20 and the doors 26,28,30 and 32 contain a foam insert. As shown in Figure 3, the long inside edges 46 of the outer doors 30,32 abutting the center doors 26,28, have a removable batten 64 making such edges rigid so that the outer doors 30,32 do not bulge when the container is loaded or being unloaded through the vertical slot 44. The batten 64 may be made from a hard wood or aluminium. The batten 64 is housed in a sleeve created by the anti-friction, wear resistant material 60,62 along the long inside edges 46. *Velcro fasteners 58 at the top of the anti-friction wear resistant material provide a reusable closure means for the sleeve so that the batten can be replaced. Alternative to the batten, the outer doors 30,32 can be made entirely rigid by means of an insert. The center doors 26,28 may have a hard insert. The container may have straps to further secure the front panel doors 26,28,30 and 32 once closed. The container is made of fabric, preferably fabric which is fire resistant, water resistant, rot and mildew resistant, tear resistant and ultra violet light resistant. Binding is used where abutting edges of the panels are sewn together.

*Trademark

To load the container it is positioned on the ground on its back panel. The front panel 22 is fully opened to create a trough 24. While kneeling on the ground next to the bottom panel 14, fire hose is accordion loaded so that its flat side is parallel to the back panel 20. The hose is loaded so that each accordion tier in the container will pull out from the front panel 22 to the back panel 20 so as to minimise the required pull out force. This is accomplished by returning the hose to the back panel 20 once the first accordion tier fills the depth of the bottom panel 14. The hose is returned to the back panel 20 by laying a segment of it flat against the edges of the tier just loaded. The hose is then accordion folded, flat side parallel to the back panel 20, back towards the front panel 22. This process continues until the desired amount of hose is loaded. At this point, the front panel is closed and secured with the *Velcro fasteners and the container is ready for transport.

When the carrier wants to unload the hose, the center doors 26,28 are opened while leaving the outer doors 30,32 closed so as to create a vertical slot as shown in Figure 2. The end of the top length of hose is pulled through the slot and secured. The carrier walks forward and the hose plays out through the slot. The container is simple and easy to use. It can be loaded directly without the need for a cardboard box. Loading the hose into an accessible structured container is easy and convenient. The padded back is comfortable and held firmly against the carrier's back. This mitigates sway and bounce forces which can cause injury and fatigue and allows the carrier to walk more upright. The vertical slot creates minimal resistance to the hose pulling out and the hose unloads from the top to bottom. The effort required to unload the container diminishes as hose is laid, in part because of the lowering pull-out point. This is unlike containers which top unload since as these containers empty, pull out forces tend to increase.

Although only a single embodiment of the present invention has been detailed and illustrated, the present invention is not limited to the features of the embodiment but includes all variation and modifications within the scope of the claims and the spirit of the invention.

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The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A container for storing, transporting and unloading fire hose comprising: top, bottom, front, back and side panels which can be closed and which, when the front panel is fully opened, form a trough;
a means for creating a vertical slot in the front panel;
a reusable closure means for the front panel including its means for creating a vertical slot; and
a means for carrying the container.

2. A container as claimed in Claim 1 wherein the means for creating the vertical slot in the front panel comprise overlapping doors which can be opened while leaving the remainder of the front panel closed.

3. A container as claimed in Claim 2 wherein the exterior overlapping door has a means for grasping it so as to unfasten it from the interior overlapping door.

4. A container as claimed in Claims 1, 2 or 3 wherein the inside of the front panel adjacent to the vertical slot has an anti friction, wear resistant surface.

5. A container as claimed in Claims 1, 2 or 3 wherein the inside of the front panel's long edge adjacent to the vertical slot has a removable, rigid batten.

6. A container as claimed in Claims 1, 2 or 3 wherein the entire front panel, other than its means for creating a vertical slot, is made rigid by means of an insert.

7. A container as claimed in Claims 1, 2 or 3 wherein the means for carrying the container comprise adjustable, quick release shoulder straps anchored to the top and the back panel.

8. A container as claimed in Claim 7 wherein the shoulder straps have contoured, cushioned pads that distribute the weight of the container across their entire width.

9. A container as claimed in Claims 1, 2, 3 or 8 wherein the top, bottom, back, front and side panels are made semi-rigid by means of a foam insert.

10. A container as claimed in Claims 1, 2, 3 or 8 wherein attached to each side panel and the top panel is a means for lifting the container.

11. A container as claimed in Claims 1, 2, 3 or 8 wherein the panels are integral to one another.

12. A container as claimed in Claims 1, 2, 3 or 8 wherein the panels comprise a double layer of material.

13. A container as claimed in Claim 12 wherein the material is fire resistant water resistant, rot and mildew resistant and ultra violet light resistant.

14. A container as claimed in Claims 1, 2, 3 or 8 wherein straps supplement the reusable closure means for the front panel including its means for creating a vertical slot.

15. A container for storing transporting and unloading fire hose comprising top, bottom, front, back and side panels which can be closed and which, when the front panel is fully opened, form a trough; the front panel consisting of two overlapping center doors and two outer doors; *Velcro fasteners providing a reusable closure means for the center doors and outer doors; the front panel creating a vertical slot when the outer doors are closed and the center doors are opened; two loops attached to the long edge of the exterior overlapping center door; the inside of the outer doors long edge adjacent to the vertical slot having an anti-friction wear resistant surface; a rigid, removable batten housed inside of the anti-friction, wear resistant material; quick release, adjustable, contoured and cushioned shoulder straps anchored to the top and back panels by stitching; the panels containing a foam insert; the top panel and the side panels having handles secured by stitching; the panels being integral and made from a double layer of material.

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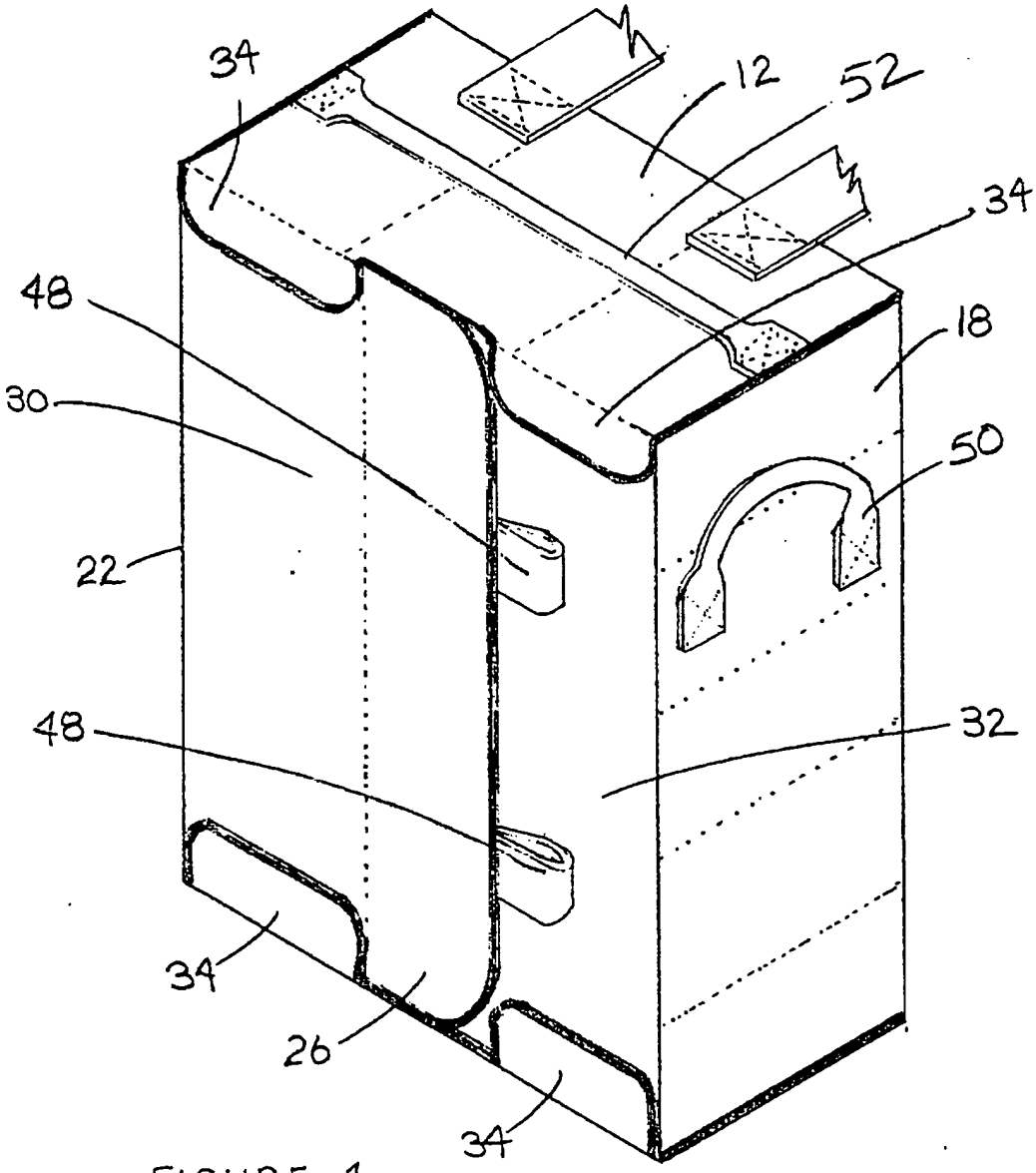


FIGURE 1

DRN. BY Edmy Gonsalves

Edmy Gonsalves

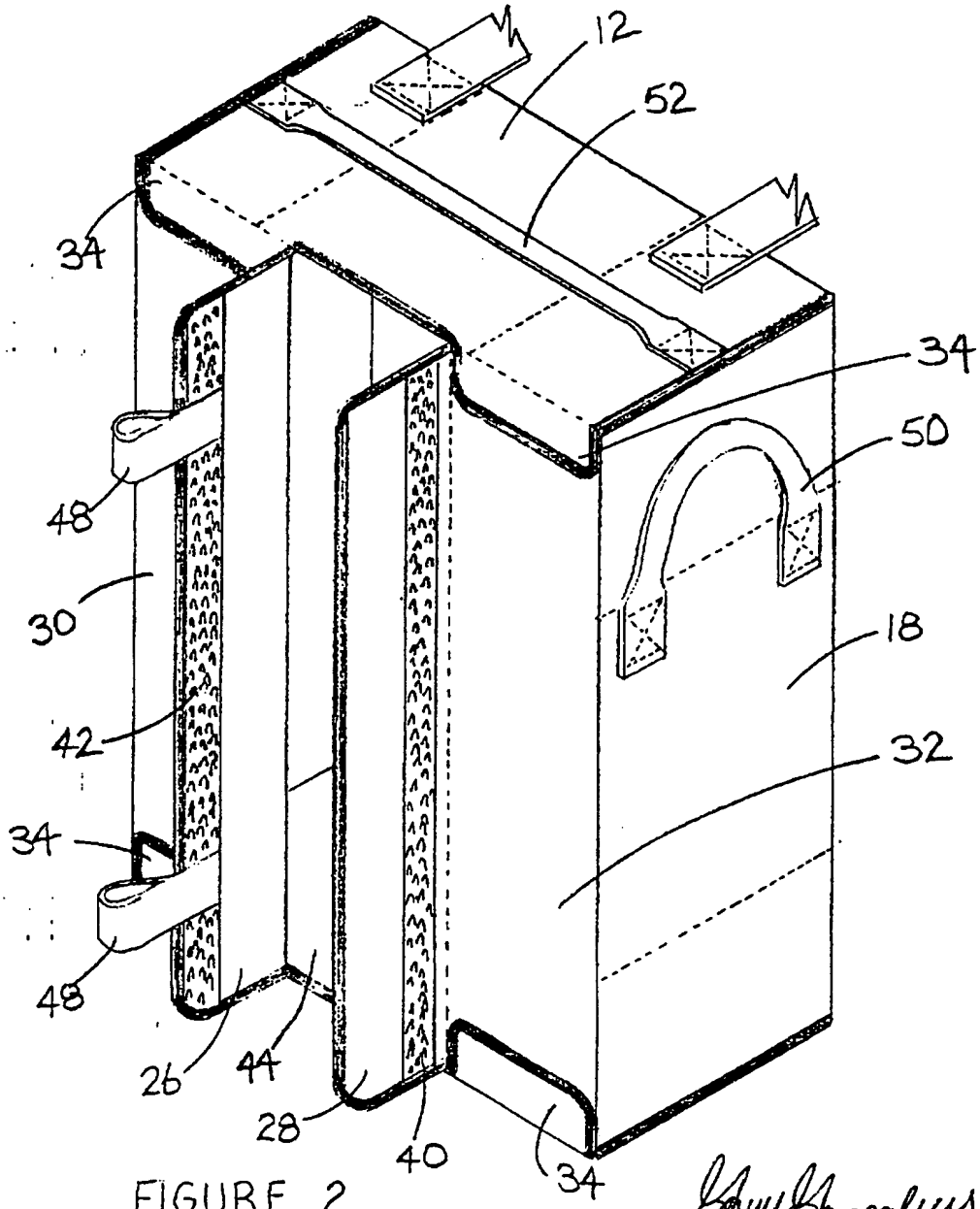


FIGURE 2

DRN. BY Gary Gonsalves

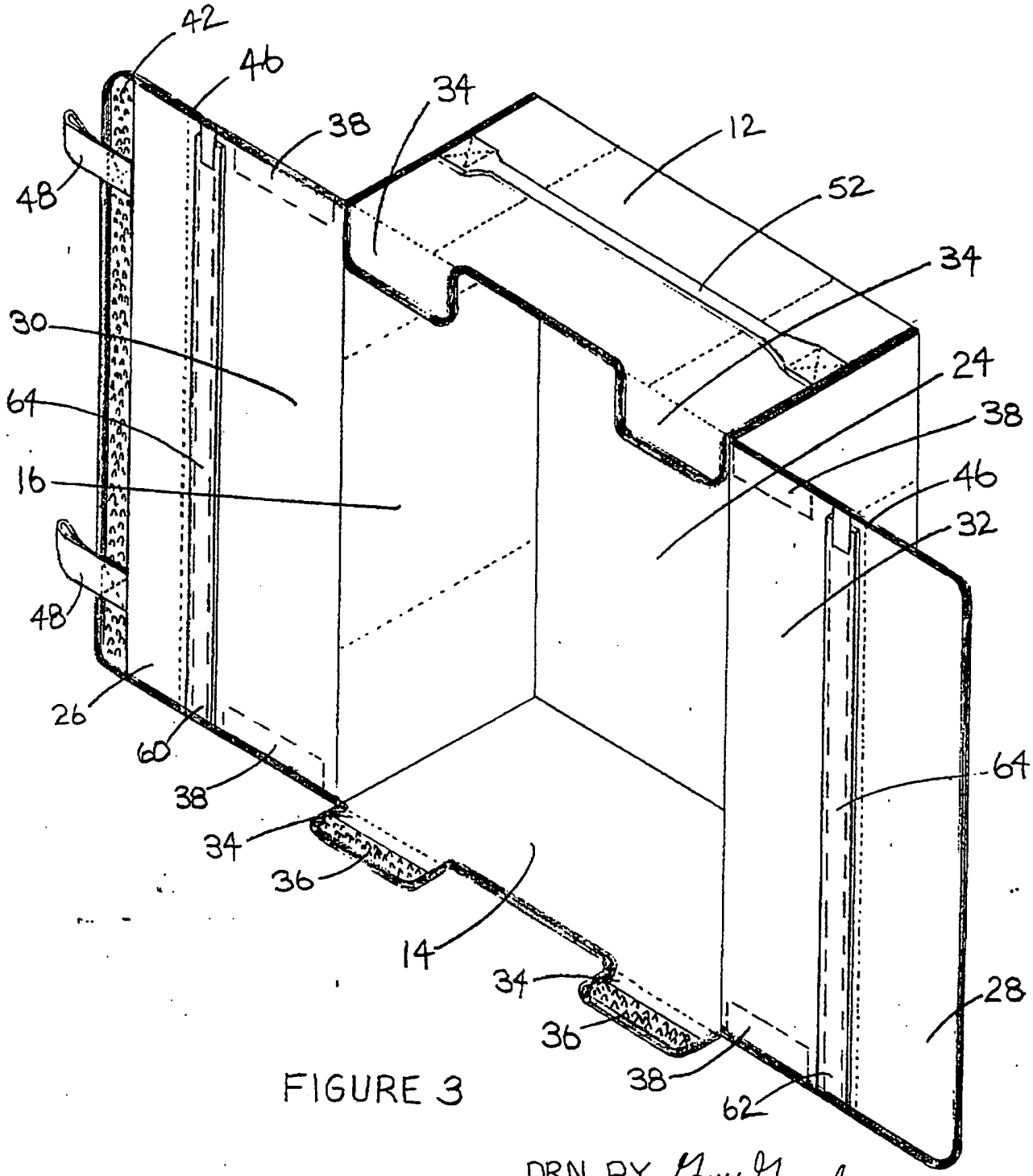


FIGURE 3

DRN. BY Gary Gonzales

Gary Gonzales

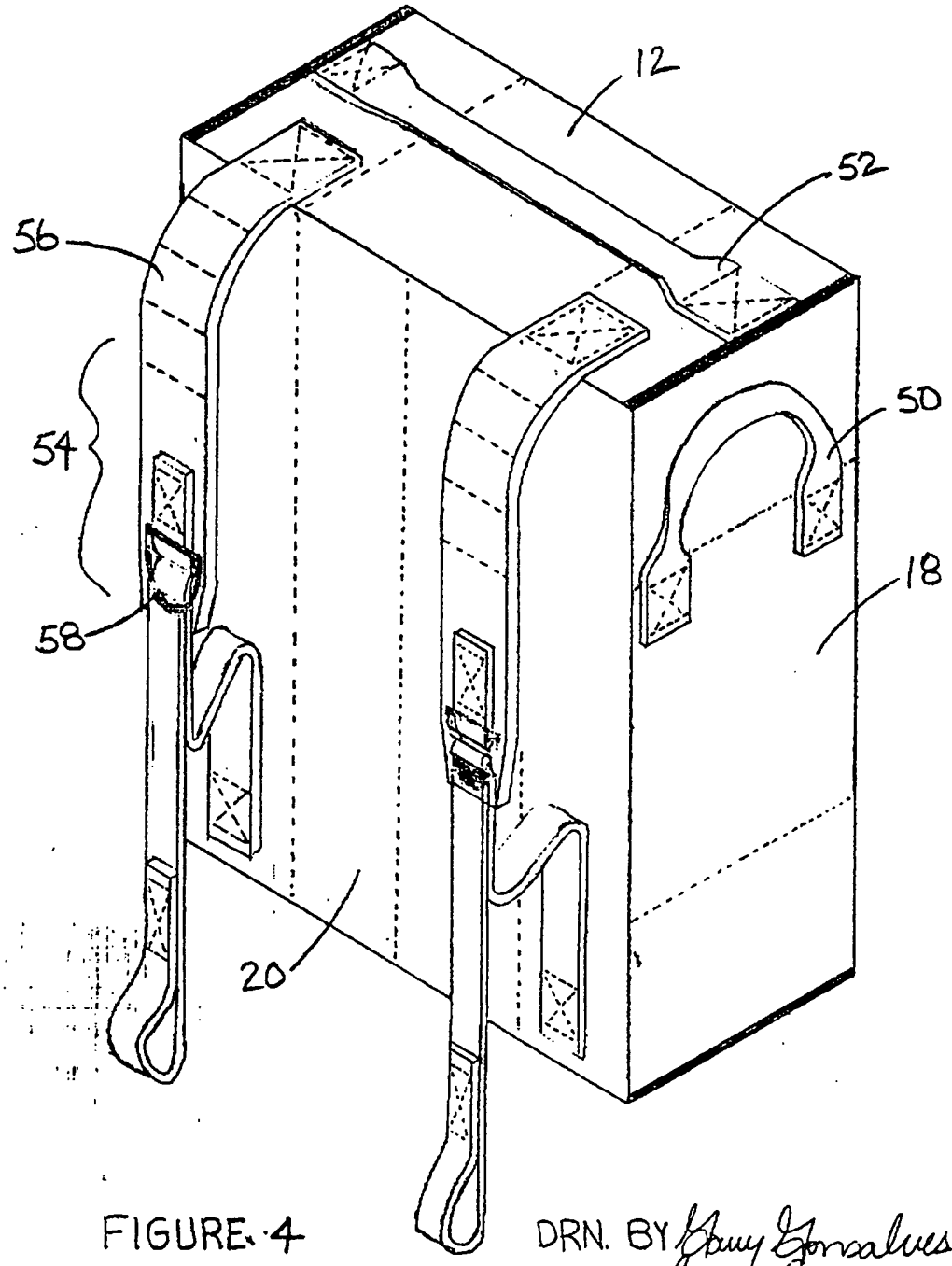


FIGURE 4

DRN. BY Gary Gonsalves
Gary Gonsalves